

King County Benchmarks

2005

Transportation

Highlights



Issues of congestion, economic development, pollution, and the mingling of various modes of transportation were already present in King County at the time of this photo. King County Photo Archives

Transportation Connects Us: to our Jobs, Friends, and World

Transportation is about where we live, where we work, and what we do for fun. It is also about bringing us the goods and services that we have come to expect. And increasingly, it is about the quality of life in our physical environment. The vision embodied in the Countywide Planning Policies asks us to see those connections. Our transportation system is impacted by our choices of where we live, and where we work, and how we get from one to the other. In turn, how efficiently we move goods, services, and ourselves from place to place impacts our economy and our environment.

Transportation and the Economy

A recent estimate put the total cost of weekday delays on major Puget Sound freeways at \$164 million per year. This includes both loss of productive time by travelers, and higher vehicle operating costs due to congestion. Fixing our transportation system has high costs, but not fixing it has costs we often overlook. High levels of congestion affect the economy in other ways as well. Businesses may not choose to locate in a region with well-

known traffic woes, whether they are concerned with moving their goods through King County to other areas, or with reasonable commutes for their workers. Having a variety of transportation and housing options for employees is also a draw for many companies.

Transportation and Where We Live

The factors that determine where we choose to live can be very complex: commute time to work of at least one household member is usually a consideration. When there are multiple workers in a household, choices are often made to balance those commute times. School districts, affordability, and neighborhood amenities are also on the list. When land uses are planned so that attractive housing options are available close to a variety of convenient commuting choices, with amenities at a walkable distance, everyone wins. The cost of sprawling development is auto-oriented, isolated residential communities that separate us from our work, friends, shopping, and entertainment, instead of connecting us to our world.

Transportation and How We Live

In our region 55% of climate-changing greenhouse gas emissions come from motor vehicles. While the effects of these emissions may seem remote, there is clear evidence that our global climate is changing rapidly in reaction to human-generated emissions. In the shorter term, air toxics and particulate matter in the air, mainly from diesel and other fuel emissions, increase our risk for heart and lung disease and a number of types of cancer.

Neighborhoods and urban centers that encourage walking, biking, and public transportation can make a huge difference in our personal health as well as in the quality of our environment.



Providing bicycle parking and extending bike trails reflect the County's and cities' multi-modal transportation goals. King County Photo Archives

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Indicator Flags



There has been a long-term trend in a positive direction, or most recent data shows a marked improvement



There has been little significant movement in this Indicator, or the trend has been mixed



There has been a long-term negative trend, or the most recent data shows a significant downturn



There is insufficient reliable trend data for this Indicator

Outcome: Encourage linkages between residences, commercial centers and workplace locations

Indicator 41: Average Commute Lengths for Major Destinations in King County



Countywide Planning Policy Rationale

"Within the Urban Growth Area, growth should be directed as follows: a) first, to Centers and urbanized areas with existing infrastructure capacity; b) second, to areas which are already urbanized such that infrastructure improvements can be easily extended; and c) last, to areas requiring major infrastructure improvements." (LU-28)

"The region's scarce resources for transportation capacity improvements must be used prudently to focus on areas where zoning and densities support a multi-modal transportation system....The land use pattern shall be supported by a balanced transportation system which provides for a variety of mobility options." (FW-18)

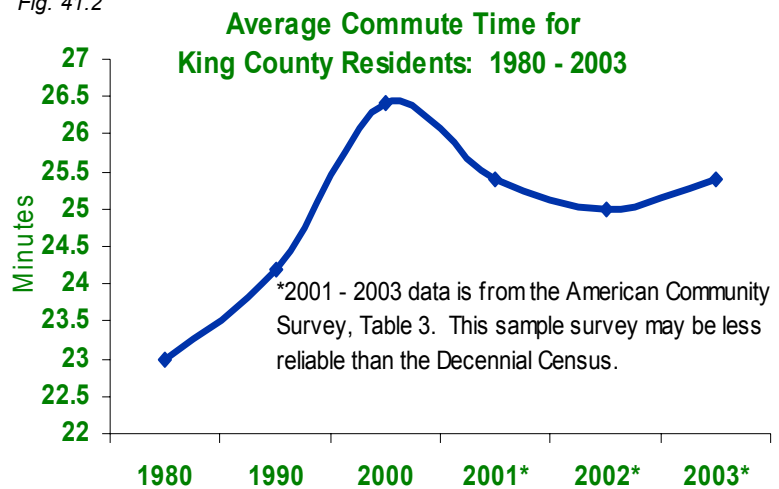
"Target ranges for employment growth inside and outside Urban Areas shall be based on the following criteria:...The willingness of local jurisdictions to implement policies which encourage transit...and the adoption of policies that encourage clustering of commercial and residential areas." (LU-68)

"Each [Urban] Center shall have planned land uses to accommodate...a minimum of 15,000 jobs within one half mile of a transit center."

Key Trends

- According to the Census Bureau's American Community Survey (ACS) King County's average commute trip time in 2003 was 25.4 minutes, down from the 26.5 minutes reported in the 2000 census. It is up very slightly from the 25.0 reported by the ACS in 2002. This trip time includes all forms of commuting.
- King County's average commute time is relatively low for major metropolitan counties. Of the 14 metropolitan counties in Fig. 41.1 it is the fourth lowest. About half of the counties have seen an

Fig. 41.2



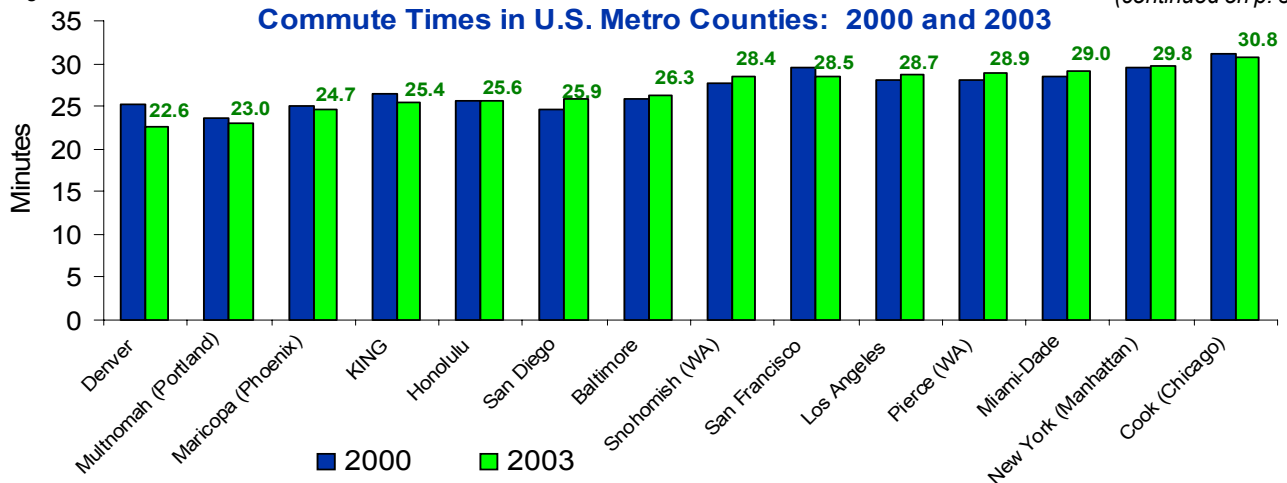
increase in their average commute time since 2000, while the other half have stayed the same or declined slightly.

- From 1990 to 2000 commute times in King County rose sharply from 24.2 minutes to 26.5 minutes, an increase of about 9.5%. From 1980 to 1990, the increase was from 23.0 minutes to 24.2 minutes, an increase of about 5.2%.
- 2000 Census data showed an average commute time of 30.4 minutes for all those who work in King County. This includes King County workers who commute from surrounding counties. This travel time was about 2 - 3 minutes longer than in 1990.
- There are several possible reasons for the decline in average commute length. The first is that with a recession in 2001 - 2003, congestion was reduced because there were fewer workers and fewer commercial vehicles on the road. This explanation is supported by data on transit ridership which also declined during this period (see Indicator 24).
- There have been concerted efforts to improve incident-response times, so that accidents on major thoroughfares do not unduly delay traffic.
- It may also be the case that some people are choosing to live closer to their place of work, or work closer to their place of residence. This would shorten their commutes, and alleviate congestion for others.

Fig. 41.1

Commute Times in U.S. Metro Counties: 2000 and 2003

(continued on p. 3)



Indicator 41, continued
Fig. 41.3

Heavily-Traveled Highway Commutes in King County			
Major Destination and Return Commute Trip	Change in Commute Time from 2000 - 2003* (in Minutes of Travel)		
	AM Peak	PM Peak	Combined Round Trip Commute
Tukwilla to Bellevue am, Bellevue to Tukwilla pm on I-405	8	-2	6
Seattle to Bellevue am, Bellevue to Seattle pm over SR-520	1	2	3
Bellevue to Seattle am, Seattle to Bellevue pm over SR-520	3	-1	2
Seattle to Bellevue am, Bellevue to Seattle pm over I-90	3	2	5
Auburn to Renton am, Renton to Auburn pm on SR-167	4	-5	-1
Everett to Seattle am, Seattle to Everett pm on I-5	1	0	1
Change in Commute Time 2001 - 2003**			
Bothell to Bellevue am, Bellevue to Bothell pm I-405	-1	0	-1
SeaTac to Seattle am, Seattle to SeaTac pm via I-5	-1	-4	-5
Issaquah to Bellevue am, Bellevue to Issaquah pm I-90	1	4	5
*Not every commute time is measured every year. In some cases the change is based on just two years of data. **2000 data is not available for these commutes, so 2001 is used as the baseline.			

- The Washington State Department of Transportation measures peak-hour commute times on major King County routes. Fig. 41.3 shows the change in minutes of travel on some of these routes over the last several years.
- Six out of the nine highway commutes have increased since 2000 or 2001. Only three have decreased.
- There were improvements in six out of nine of the evening commutes, while only two of the morning commutes improved. However, the improvement in the evening commutes were not sufficient to outweigh the effects of longer morning commutes.
- The greatest improvement was a reduction of 5 minutes in the round trip commute from Sea-Tac to Seattle via I-5. The round trip commute time improved by one minute on the Auburn to Renton (SR-167) commute, and by one minute on the Bothell to Bellevue (I-405) commute.

Outcome: Increase the Use of Modes of Transportation other than Single Occupancy Vehicles

Indicator 42: Public Transit Ridership



Countywide Planning Policy Rationale

"All jurisdictions in the County, in cooperation with METRO, the Metropolitan Planning Organization [Puget Sound Regional Council], and the State, shall develop a balanced transportation system...(FW-19)

"The countywide transportation system ...shall be a multi-modal system....[which] shall include the following: a. an aggressive transit system, including high-capacity transit; b. high occupancy vehicle facilities;...g. non-motorized facilities; and h. freeways, highways, and arterials." (T-1)

"Each Urban Center will be providing for a minimum of 15,000 jobs and should be served by high-capacity transit.... All jurisdictions that would be served by high-capacity transit shall plan for needed high-capacity transit rights-of-way, stations and station supportive transportation facilities and land uses in their comprehensive plans.... (T-5)

"To encourage transit use, jurisdictions should establish mechanisms to limit the use of single-occupancy vehicles for commuting purposes...All plans for Urban Centers shall encourage bicycle travel and pedestrian movement." (LU 44)

"Mode-split goals and measures of mobility for transit, ridesharing and non-motorized travel shall be established by local jurisdictions and METRO."

Key Trends

Transit Ridership

- With over 106 million passenger boardings in 2004, public transit services in King County have regained the high reached in the year 2000.
- As Fig. 42.4 shows, bus ridership is closely related to economic cycles. When employment is down, bus ridership also falls, and when the economy begins to improve, job growth means more riders on public transportation.
- Although bus ridership was down significantly in 2002 and 2003, ridership on Sounder Commuter Rail and on the Sound Transit Express buses continued to climb throughout the recession period, offsetting some of the decline in Metro and Community Transit ridership.

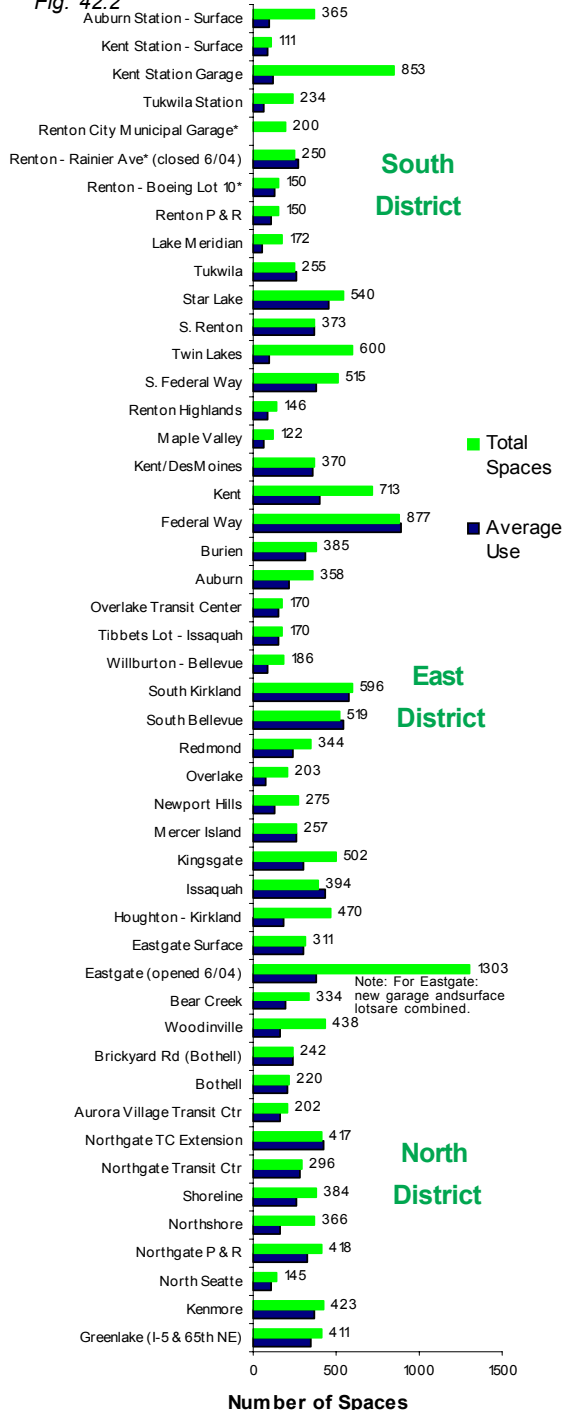
(continued on page 4)

Fig. 42.1

Annual Passenger Boardings on Metro Transit, Community Transit, and Sound Transit					
	2000	2001	2002	2003	2004*****
Metro Managed Transit*	100,814,820	98,867,969	95,319,400	96,186,372	99,439,679
Community Transit Serving King County**	2,430,208	2,459,188	2,387,189	2,347,057	2,382,506
Sound Transit Express Buses (non-Metro)***	2,373,400	2,695,800	2,682,800	2,930,600	3,313,700
Sounder Commuter Rail****	102,552	562,740	672,495	751,163	955,298
Total	105,720,980	104,585,697	101,061,884	102,215,192	106,091,183
*Metro-Managed Transit includes Metro buses and Sound Transit Express buses operated by Metro.**This includes Community Transit Routes from Snohomish County to downtown Seattle, Bellevue, and UW. ***This includes ST Express Buses to/from Pierce to King County and to/from Snohomish to King County. ****Sounder Rail includes all passenger boardings on the Tacoma and Everett to Seattle routes, some of which originate outside of King County. It does not include Tacoma Light Rail Link. *****For Metro-managed transit, improvements in the software used to calculate ridership accounts for about 0.8% of the increase over previous years.					

Metropolitan King County Countywide Planning Policies Benchmark Program

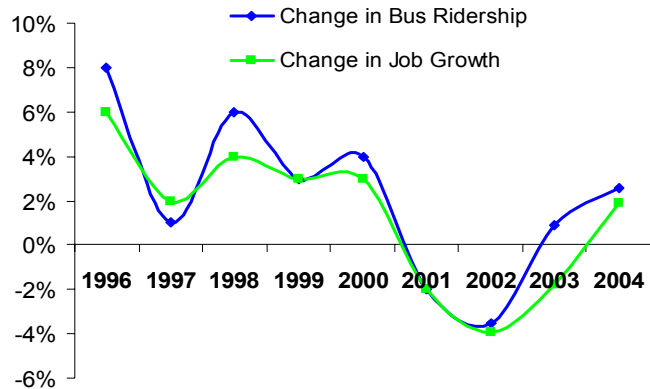
Usage of High Capacity Park & Ride Lots: 2004



(continued from page 3)

Fig. 42.4

Change in Bus Ridership in Relation to Employment Growth



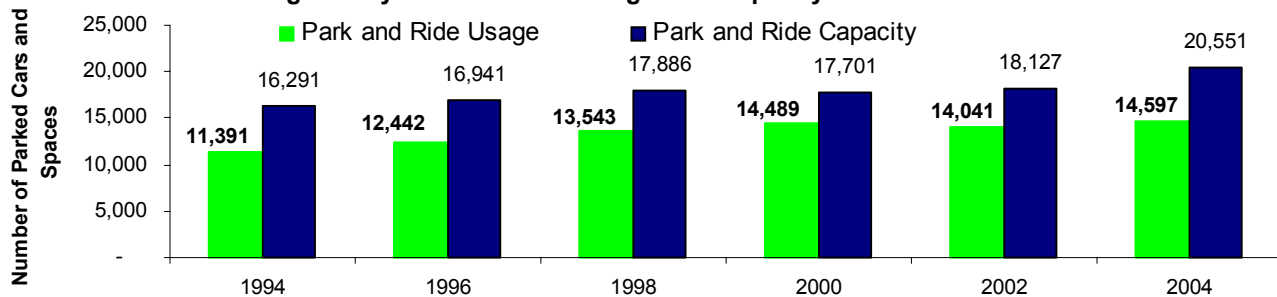
- Since 2000, Sounder Commuter Rail has gained over 850,000 passenger boardings, and the Sound Transit Express buses have added about 940,000 boardings.
- The Everett-Edmonds-Seattle Sounder line began operating in spring of 2004. Sound Transit has also attempted to give riders more options by partnering with Amtrak trains that offer trips at alternate times during the day. This new line accounts for much of the 204,000 increase in Sounder boardings between 2003 and 2004.
- While there has undoubtedly been some interchange between bus ridership and commuter rail ridership, all of the agencies gained riders during 2004.
- Metro-Managed Transit added 3.25 million passenger boardings from 2003 to 2004, and Community Transit added 35,400.

Park and Ride Capacity

- Since 1993, there has been a 36% increase in park and ride capacity, with a 33% increase in usage. Usage may lag capacity slightly as riders transition to new park and ride locations. Ridership improves with the availability of convenient park and ride facilities and sufficient capacity.
- In the fourth quarter of 2004, King County had over 20,500 parking stalls, with an average of 14,600 used daily. This amounts to a 71% usage rate, compared to a 72% rate last year. Average percent usage has varied considerably since 1993, but has been about 75% over the decade.
- Capacity has increased by nearly 3,000 spaces since 2000. Park and ride usage has nearly caught up. With an improvement in the economy, it is likely that usage will continue to keep pace with new capacity.
- As Fig. 42.2 shows, many of the high-capacity lots are at or close to capacity, while others are under-used. Efforts are underway to provide further capacity in areas where demand is high.

Fig. 42.3

King County Park and Ride Usage and Capacity: 1992 - 2004



(continued from page 4)

What We Are Doing

- Proceeding with first-phase construction of the Sound Transit Light Rail System, and continuing to plan for a comprehensive system linking Sea-Tac Airport, Tukwila, downtown Seattle, the U.W., and eventually Northgate.
- Continuing the transition to new hybrid diesel-electric buses for Metro and Sound Transit, as well as retrofitting existing diesel buses, in order to significantly reduce diesel fuel emissions.
- Increasing service and ridership on Sounder commuter rail, particularly on the recently-opened Everett-Edmonds-Seattle line. Working with Amtrak to provide alternative trip times.
- In June 2004, opening Eastgate Park and Ride garage with 724 parking spaces, in addition to nearly 600 in surface lot. Building a new I-90 HOV lane ramp to provide quicker bus access to and from the Park and Ride.
- Creating a new overpass and direct access ramps to the Totem Lake area of Kirkland, and to the Kingsgate Park and Ride.
- Planning for a new Transit Center in Burien's downtown to be completed by the end of 2006.
- Completing construction on an expanded Kenmore Park and Ride lot, which will have a total of 619 spaces.
- Continuing construction on the new Redondo Heights Park and Ride lot with 700 new parking space, and beginning construction on the new five-story, 1000-stall Issaquah Heights Park and Ride garage.
- Planning to add 450 new buses by 2022 to the current Metro fleet of 1325 buses, and expanding its current bus parking and maintenance facilities to accommodate them.
- Pursuing agreements and plans for Transit-Oriented Development (TOD) adjacent to the new Redmond Transit Center, and for potential TODs at Shoreline and Kenmore transit sites.
- Offering special bus service to all major sporting venues in King County, and to the Puyallup Fair.

Outcome: Increase the Availability and Use of Modes of Transportation other than Single Occupancy Vehicles

Indicator 43: Percent of Residents who Walk, Use Transit, Bicycle, or Carpool as Alternatives to the Single Occupancy Vehicle



Countywide Planning Policy Rationale

"The land use pattern shall be supported by a balanced transportation system which provides for a variety of mobility options...[including] a high capacity transit system which links the Urban Centers and is supported by an extensive high-occupancy vehicle system, a local community transit system for circulation within the Centers and to the non-center Urban Areas, and non-motorized travel options." (FW-18)

"To encourage transit use, jurisdictions should establish mechanisms to limit the use of single-occupancy vehicles for commuting purposes. Such mechanisms could include charging for long-term single-occupancy vehicle parking and/or limiting the number of off-street parking spaces for each urban Center...[and] developing coordinated plans that incorporate Commuter Trip Reduction guidelines." (LU-44)

"The transportation element of Comprehensive Plans shall include pedestrian and bicycle travel as part of the transportation system and be developed on a coordinated, regional basis. The bicycle and pedestrian element shall be a part of the funding component of the capital improvement program." (T-7)

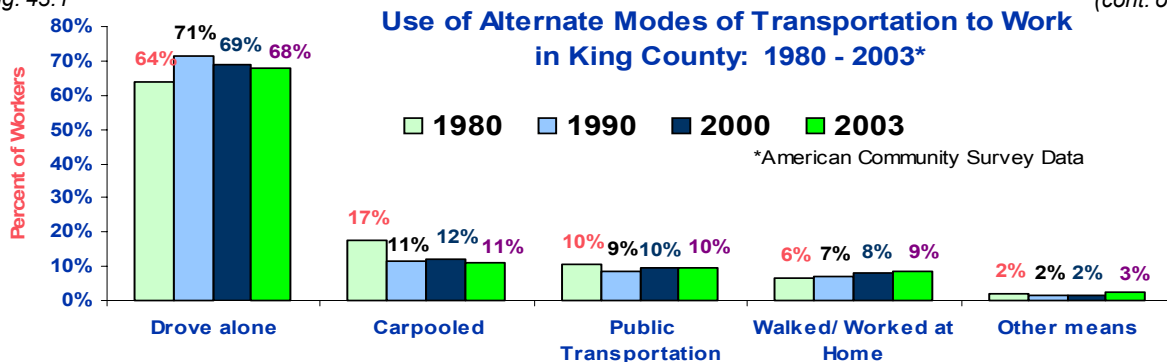
"Mode-split goals and measures of mobility for transit, ridesharing and non-motorized travel shall be established by local jurisdictions and METRO."

Key Trends

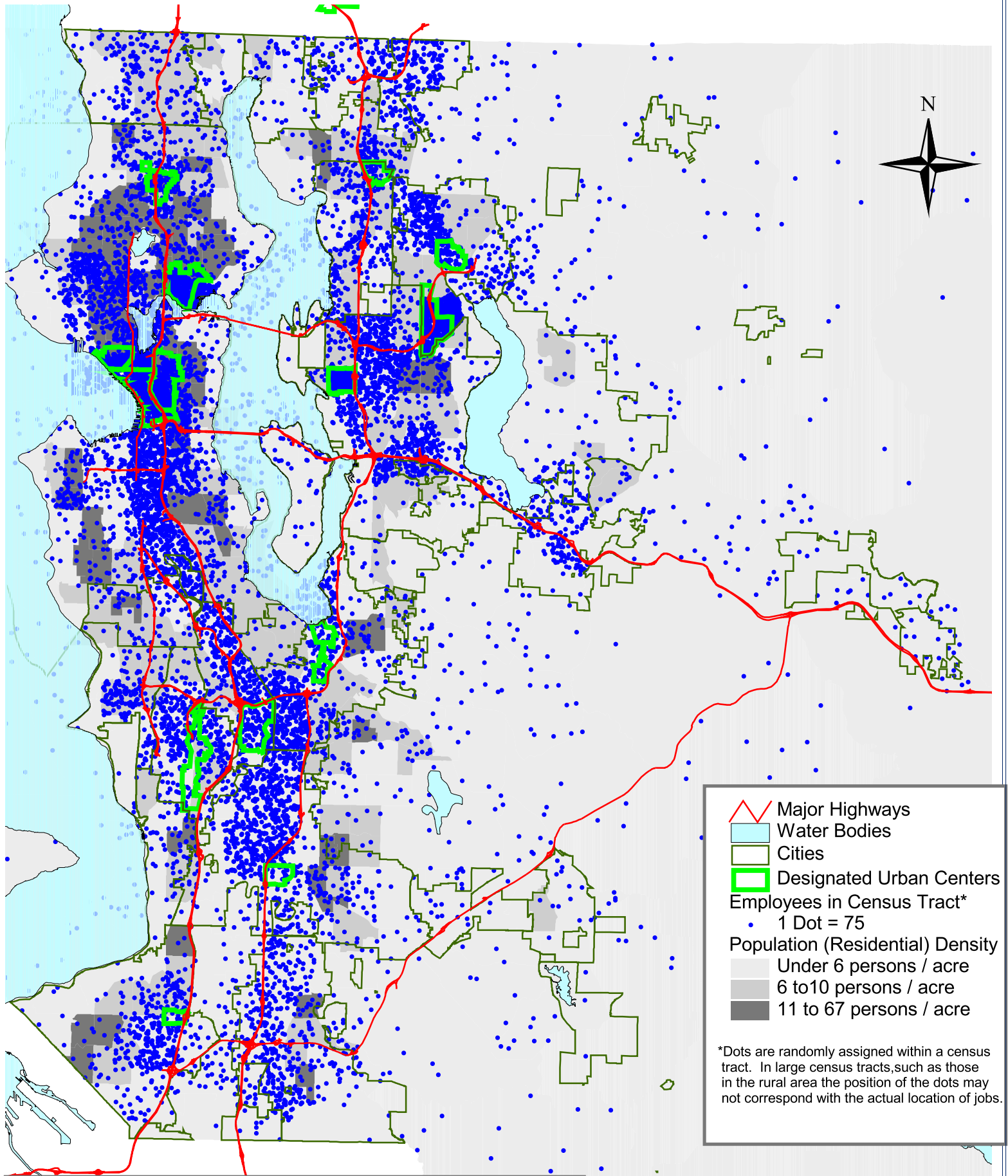
Work Trips

- In 2003, 68% of King County residents drove alone to work. This is down slightly from 71% in 1990, and 69% in 2002. However, it is still higher than the 64% who commuted alone in 1980.
- Much of the change since 1980 is due to a shift back to single-occupancy vehicles (SOVs) instead of carpooling.
- Use of public transportation (buses, ferries, and taxis) accounts for only 10% of commute trips. This rate has remained fairly steady over the last two decades.
- A notable change has been the increase in those who walk to work, or work at home, from 6% in 1980 to 9% in 2003.
- There has been a slight increase in those using "other means" of transport, such as a bicycle, to get to work.
- Reducing SOV trips is critical for air quality, energy consumption, greenhouse gas emissions, and improved mobility. Despite this, progress in reducing SOV trips appears to be very slow.
- During rush hours HOV lanes move nearly a third of the people on regional freeways in only 17% of the vehicles. High occupancy vehicle (HOV) lanes serve as an inducement for commuters by offering travel time advantages over single occupancy vehicles.

Fig. 43.1



(cont. on page 6)



Employment Nodes, Areas of Denser Residential Population, and Urban Centers

Freight and Goods Transportation Systems Map: 1999

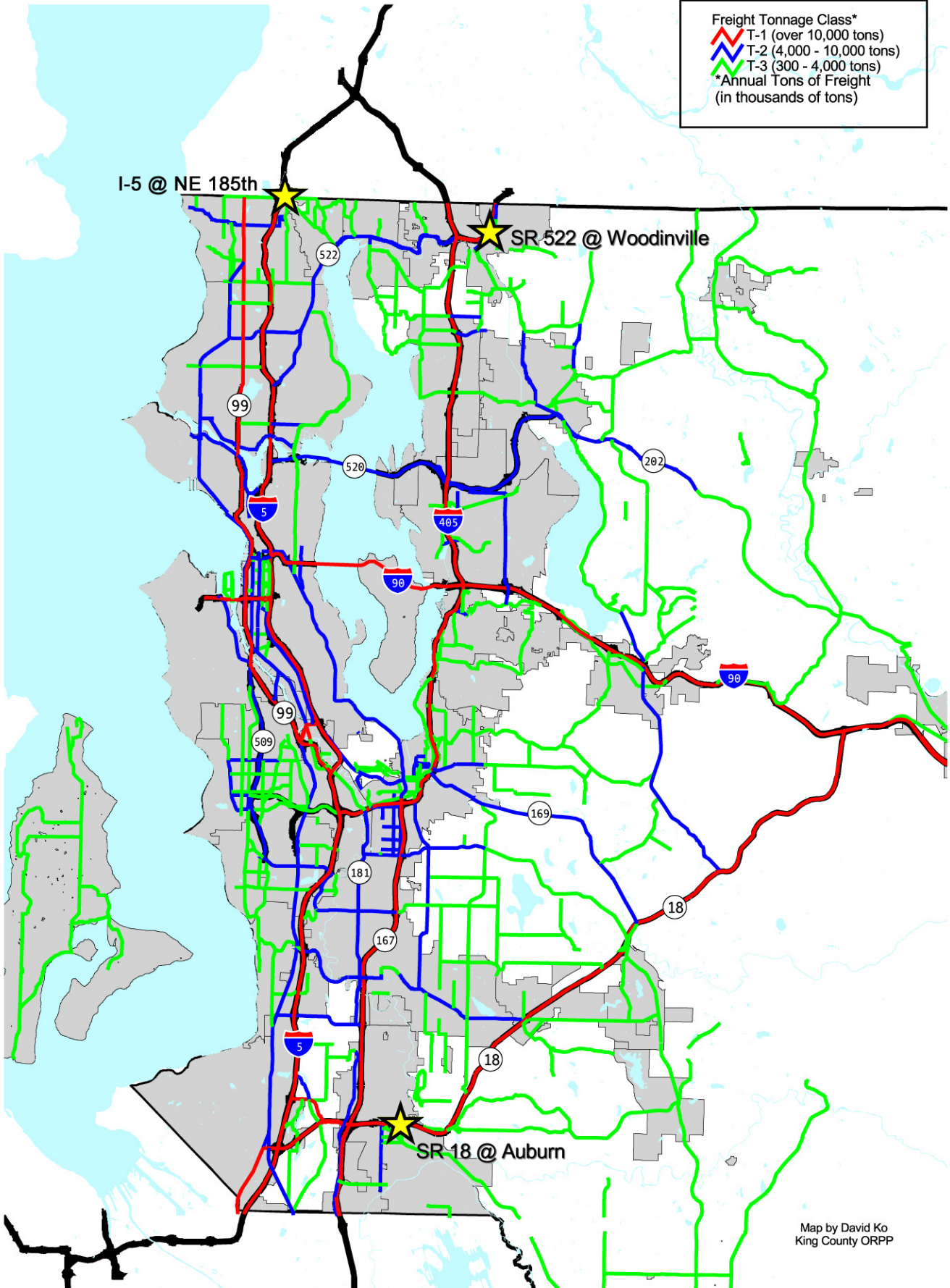
Freight Tonnage Class*
T-1 (over 10,000 tons)
T-2 (4,000 - 10,000 tons)
T-3 (300 - 4,000 tons)
*Annual Tons of Freight
(in thousands of tons)

I-5 @ NE 185th

SR 522 @ Woodinville

SR 18 @ Auburn

Map by David Ko
King County ORPP



(continued from page 5)

Mode Split in the Sub-Regions

- In the densely-populated SeaShore sub-region (Seattle, Shoreline, and Lake Forest Park), commuters are much more likely to use alternatives to SOVs. According to the 2000 Census, while 58.5% still drove alone, nearly 17% used public transportation, 11.5% used carpools, and 7% walked. Another 4.5% worked at home, and almost 2% bicycled.
- In the more sparsely-populated rural areas, 78% drove alone to work, and only 10% carpooled. 6.2% worked at home, and another 1.4% walked to work. With fewer transit opportunities in the rural areas, only 3.1% used public transportation to get to work.



King County Photo Archives

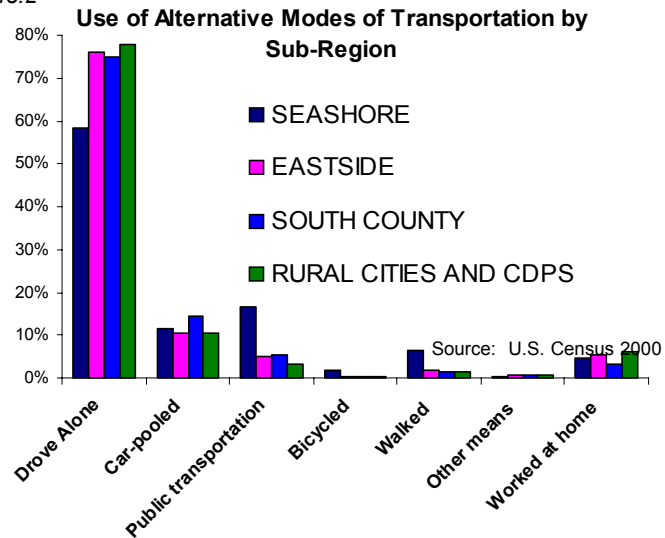
This bus from Vashon Island carries passengers onto the ferry and into downtown Seattle.

- The Eastside and South County had similar mode splits, with two notable exceptions. South County at 14.3%, has the highest rate of carpooling of any of the sub-regions, and the lowest rate of working at home. 5.4% of workers from the Eastside, on the other hand, worked at home, compared to just 3.1% in the South subregion.
- While 8.3% of the workforce in SeaShore walked or biked to work, less than 2.5% did so in any of the other sub-regions.
- These travel-to-work preferences seem to reflect the greater availability of public transportation in SeaShore. They may also reflect the availability of sidewalks and trails that encourage walking and biking, and the closer proximity of homes to workplaces.

Non-work Trips

- In 2002, about 50% of non-work trips in King County were by SOV, while 37% were by carpool. Over 9% were on foot, bicycle or other, and just 4% were by public transportation.

Fig. 43.2



What We Are Doing

- Developing commuter rail, light rail, and monorail opportunities to provide convenient, affordable alternatives to car commuting.
- Encouraging residential development in urban centers in closer proximity to public transit and to major employment centers.
- Pursuing transit-oriented development projects in Redmond and several other suburban cities.
- Encouraging the design and building of pedestrian-friendly places in suburban areas, and facilitating mixed use development, where jobs, shopping, and housing are adjacent.
- Completing the HOV (high-occupancy vehicle) system which will create a 300 lane mile network on the major highways through western King County.
- Building new park-and-ride and transit center facilities in suburban areas of the County, and improving express bus service from these areas.
- Extending bicycle paths and lanes to make it easier for cyclists to commute to work, as well as to improve recreational opportunities.
- Researching ways to make and market public transportation as a "first class" way to commute.
- Providing incentives to businesses whose employees reduce SOV commutes.



Courtesy of Sound Transit

An artist's rendering shows the proposed ramp from 142nd Pl. SE to I-90, which would connect buses from the new Eastgate Park and Ride directly to the HOV lanes.

Outcome: Improve Ability of Goods and Services to Move Efficiently and Cost-Effectively Through the Region

Indicator 44: Amount of Congestion Affecting Commercial and non-Commercial Traffic

Countywide Planning Policy Rationale

"In recognition of the fact that King County is a regional freight distribution hub and a major international trade gateway, and that freight transportation is one of the state's most important basic sector economic activities, goods mobility by all modes shall be included as a component of comprehensive plans." (FW-20) "In order to maintain regional mobility, a balanced multi-modal transportation system shall be planned that includes freeway, highway and arterial improvements by making existing roads more efficient. These improvements should help alleviate existing traffic congestion problems, enhance high-occupancy vehicle and transit operations, and provide access to new desired growth areas....General capacity improvements promoting only single-occupant vehicle traffic shall be a lower priority." (T-8)

Key Trends

- Commercial traffic mobility, as well as traveler convenience, is affected by high levels of traffic congestion. These delays impose costs due to lost time for commuters and commercial transporters. They also involve higher vehicle costs because of excess fuel usage, and wear and tear on vehicles from stop-and-go traffic. The latter have negative environmental impacts as well.
- WS DOT has estimated that, in 2003, the cost of weekday delays on major Puget Sound freeways was about \$164 million per year.
- Commute times on major routes, as shown in Indicator 41, are considered a better measure of traffic improvement or deterioration than V/C ratios, and are now the preferred benchmark of WS DOT. However, to provide a longer range view, volume capacity ratios are presented in Figs. 44:1 - 4, and discussed below.

Congestion: Volume-Capacity Ratios

- Figs. 44:1 - 4 show the amount of traffic volume in relation to capacity on four of the most heavily traveled routes in King County. Only three of these 16 commute trips commonly experience a volume-capacity (V/C) ratio of 0.9 or above. At that V/C traffic will be seriously impeded, there will be no usable gaps in the traffic stream, and therefore, little maneuverability. Delays will be considerable.
- Of these three routes, I-5 near the King-Snohomish County line, is congested both during the morning (am) southbound commute, and the evening (pm) northbound commute. Congestion on the am southbound route has improved slightly since 1995. On the pm northbound route, congestion increased from 1995 - 1999, but has declined slightly since 1999.
- In 1995 SR 18 near the Auburn-Black Diamond Road experienced a very high V/C ratio - close to 1.0 on the pm eastbound commute. However, improvements on that route have reduced the V/C ratio to under 0.7.

Key to Volume / Capacity Ratios

- .5 - .75 Travel speed still at or near free flow, but ability to maneuver within the traffic stream is noticeably restricted.
- .75 - .90 Travel speeds begin to decline with increasing flows; minor incidents expected to cause queuing.
- .90 - 1.0 Operation at or near capacity and therefore volatile because there are virtually no usable gaps in the traffic stream; maneuverability is extremely limited.

NB = northbound; SB = southbound; EB = eastbound; WB = westbound

Fig. 44.1

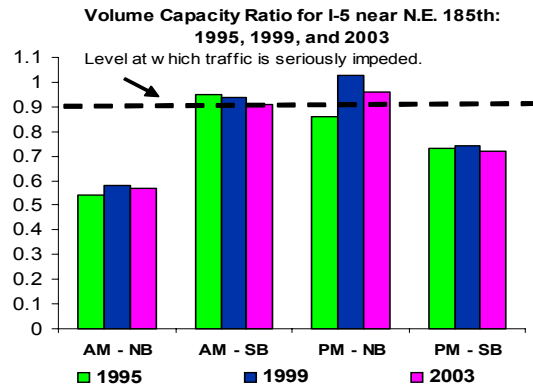


Fig. 44.2

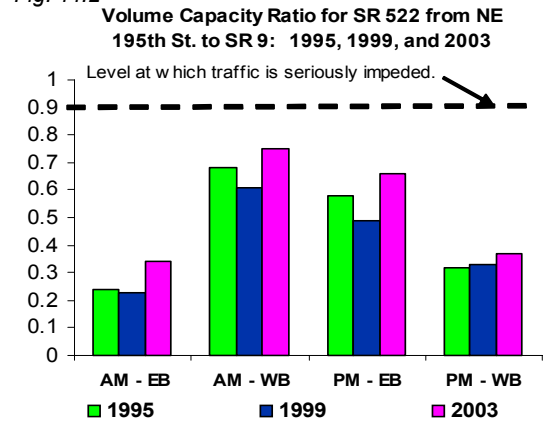


Fig. 44.3

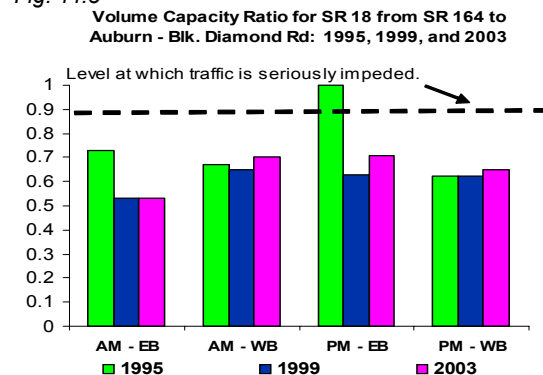
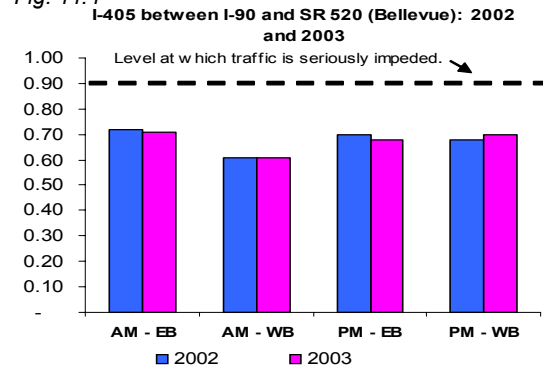


Fig. 44.4



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- Many of these routes regularly have V/C ratios in the 0.5 to 0.9 range during peak commute times. This means that there is some slowing of traffic flow, a decline in maneuverability, and a vulnerability to more serious delays should there be an accident.
- Only the commutes on I-5 have shown any significant improvement since 1995, but they remain among the most congested commutes in the region.



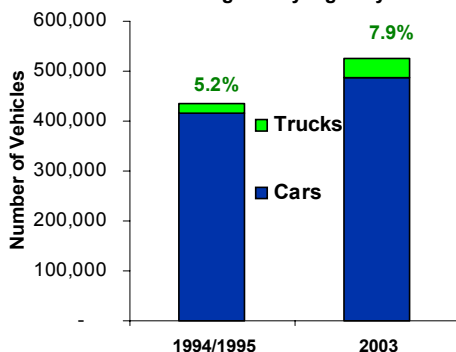
King County Photo Archives

Commercial traffic mixes with cars and buses on arterials in King County.

Commercial (Truck) Traffic

- Truck traffic has been increasing faster than car traffic on King County's major highways. Although commercial traffic is currently just under 8% of all traffic on King County's major routes, it represents a significantly larger proportion than it did in the mid-1990s.

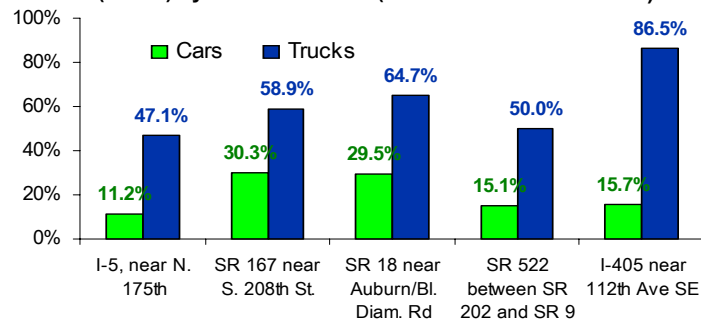
Fig. 44.5 Trucks as Percent of All Vehicles on Five King County Highways*



This is an aggregate of annual average daily traffic on I-5, I-405, SR 522, SR 167, and SR 18.

- Truck traffic rose from 5.2% of all vehicles in 1994/1995 to 7.9% of all vehicles in 2003. The main reason for this change is increased port activity, particularly incoming goods from Asia. It may also be a result of more immediate delivery of goods to retail outlets to avoid long-term storage of inventory, and direct delivery of online purchases.
- A rise in commercial traffic is a sign of economic health in the region, but it also adds stress to an already congested highway system. The efficient movement of goods and services is impeded when traffic does not flow freely, and this entails the variety of economic and environmental costs discussed above.
- The increase has been most noticeable on the I-405 corridor, where commercial traffic has increased by 86.5% from 1994 - 1996 levels. Car traffic increased just 15.7% during that same period.
- On SR 18 and SR 167, both car and truck traffic have risen substantially. On SR 18 truck traffic increased by nearly 65%, and car traffic by nearly 30%. On SR 167, trucks increased by nearly 59%, and cars by over 30%.
- I-5 in Shoreline saw an increase of 47.1%, with cars increasing by just 11.2%.

Fig. 44.6 Percent Increase in Annual Average Daily Traffic (AADT) by Cars vs. Trucks (1994 - 2003 or 1996 - 2003)



What We Are Doing

- Developing a new budget strategy which allowed King County Road Services to more than triple the amount of annual project design and construction by moving funds on delayed projects to projects ready for construction.
- Maintaining Metro transit levels of service, gradually adding new service, and continuing to expand park and ride spaces, despite setbacks from Initiatives 695 and 776, from an economic recession, and from the 2001 earthquake.
- Completing projects such as Highlands Drive in Issaquah, 140th SE in Fairwood, and 244th SE near Enumclaw earlier than expected, in order to ease congestion in those areas. Expecting to complete construction soon at NE 124th north of Redmond and South 277th between Kent and Auburn.
- Continuing to inspect and retrofit bridges for seismic safety. About 75% of seismic upgrades have been completed.
- Developing the use of Intelligent Transportation Systems (ITS) to increase the efficiency of roadways and improve the movement of good and services by monitoring and controlling traffic flow on selected arterials in real time.

King County Growth Management Planning Council Members

Chair
Ron Sims, King County Executive

Executive Committee

Richard Conlin, Councilmember, City of Seattle
Grant Degginger, Councilmember, City of Bellevue
Dow Constantine, Councilmember, King County
Jean Garber, Councilmember, City of Newcastle
Walt Canter, Commissioner, Cedar River Water and Sewer District
Terri Briere, Councilmember, City of Renton
Mary-Alyce Burleigh, Mayor, City of Kirkland

GMPC Members

Tim Clark, Councilmember, City of Kent
Bob Edwards, Commissioner, Port of Seattle
Eric Faison, Councilmember, City of Federal Way
David Irons, Councilmember, King County;
Greg Nickels, Mayor, City of Seattle
Julia Patterson, Councilmember, King County
Larry Phillips, Councilmember, King County
John Resha, Councilmember, City of Redmond
Pete von Reichbauer, Councilmember, King County
Peter Steinbrueck, Councilmember, Seattle

Alternate Members

Marlene Ciraulo, Commissioner, KC Fire District #10;
Don DeHan, Councilmember, SeaTac;
Jane Hague, Councilmember, King County;
Bob Hensel, Councilmember, Kenmore;
Lucy Krakowiak, Councilmember, Burien;
Kathy Lambert, Councilmember, King County;
Phil Noble, Deputy Mayor, Bellevue;
Nancy Whitten, Councilmember, Sammamish.

Outcome: Protect and Improve Transportation Infrastructure

Indicator 45: Number of Lane Miles of City, County, and State Roads and Bridges in Need of Repair and Preservation



Countywide Planning Policy Rationale

"Transportation elements of Comprehensive Plans shall reflect the preservation and maintenance of transportation facilities as a high priority to avoid costly replacements and to meet public safety objectives in a cost-effective manner." (T-16) "Infrastructure planning and financing shall be coordinated among jurisdictions to direct and prioritize Countywide facility improvements" (FW-21)

OCI Score	Intervention Needed by Class of Road	
	Arterial & Collector	Residential
70-95	Crack Sealing	Crack Sealing
50-69	Class B 2-inch Overlay	Class G 1-inch Overlay
26-49	Class B 2-inch Overlay	Class G 1-inch Overlay
0-25	Reconstruction	Reconstruction

Fig. 45.1

Lane Miles of County and City Roads in Need of Overlay, Repavement or Reconstruction: 2005 - 2006									
Jurisdiction	Rating System Used	Avg. Score to Identify Segments for Repaving, or Reconstruction	Total Lane Miles	Lane Miles In Need of Repaving/Rehab.	Percent of Total in Need of Repavement / Rehab.	Lane Miles Currently Budgeted for Repave or Rehab.	Percent of Need Being Met (by Lane Miles)	Amount Budgeted	Percent of Need Met (by Cost)
Uninc. King County	PCS (County Pavement Mgt. System)	PCS <40	3,680.0	178.0	4.8%	178	100.0%	\$ 8,900,000	100.0%
Auburn	MTC PMS (Pavement Mgt. Software)	<50	366.9	67.5	18.4%	1.5	2.2%	\$ 800,000	2.7%
Bellevue	Centerline PMS - OCI (Overall Condition Index)*	Art. <50, Res. <30	938.9	92.5	9.9%	54.6	59.0%	\$ 6,743,000	62.4%
Bothell (KC only)	PCI	<75-50	173.8	60.8	35.0%	15.2	25.0%	\$ 1,260,000	42.0%
Burien	Pavement View PMS - OCI	<70	118.0	42.0	35.6%	3.0	7.1%	\$ 600,000	8.2%
Clyde Hill	Streetwise	Observation	34.1	2.0	5.9%	2.0	100.0%	\$ 483,000	100.0%
Covington	Streetwise	25 - 75	112.1	30.3	27.0%	0.0	0.0%	\$ -	0.0%
Federal Way	Centerline PMS - OCI	<70	472.3	43.9	9.3%	22.6	51.5%	\$ 2,962,000	51.7%
Hunts Point				0.9		0.9	100.0%	\$ 45,000	100.0%
Kent	Network PMS (Pavement Mgt. Software)		544.7	40.0	7.3%	16.4	41.0%	\$ 1,086,500	41.3%
Kirkland	MTC PMS (Pavement Mgt. Software)	<70 - <30	311.7	36.0	11.5%	12.0	33.3%	\$ 2,050,000	32.7%
Mercer Island	Pavement Condition Rating		159.8	8.5	5.3%	8.5	100.0%	\$ 2,050,000	100.0%
Milton (KC portion only)	WA ST. PMS - no software	<40	51.0	5.1	10.0%	0.0	0.0%	\$ -	0.0%
Renton	Centerline PMS (OCI)	<70	450.7	29.0	6.4%	9.0	31.0%	\$ 1,260,000	57.3%
Seattle**	MTC PMS (Pavement Mgt. Software)	<30 - 60	3,946.0	520.0	13.2%	51.0	9.8%	\$ 23,000,000	7.3%

*Several of the cities use the Centerline Software from Measurement Research Corporation. OCI is the rating scale used.

**Seattle has a deferred maintenance backlog amounting to approximately \$300 million for arterial streets alone. Maintenance is targeted at streets where it can deliver the greatest area of improvement to the largest number of users, depending on funds available.

***Per lane mile cost varies greatly between cities, for two reasons: 1) Cities with older streets that have not been maintained, will have the high costs associated with years of deferred maintenance or repair; and 2) cities differ in how much of overhead cost is reported as part of the repave/rehabilitation budget.

Background

- King County jurisdictions use a variety of different pavement management systems, including different software, and different visual inspection methods to monitor the condition of roads.
- In the jurisdictions reporting, three systems seem to predominate, and nearly all use a 100 point scale to indicate road condition. (See example of Overall Condition Index (OCI) scale above).
- Generally, an arterial or collector road with a rating below 50 or 60 on a 100 point scale is in need of overlay or repavement. For residential streets the

standard may be lower. Once a road's condition declines below a score of 25 major reconstruction will be needed, and that is much more expensive per lane mile.

The need to avoid such expensive reconstruction is the incentive to repair roads in a timely fashion rather than to defer needed overlay and repavement beyond the point of "lowest life-cycle cost."

Metropolitan King County Countywide Planning Policies Benchmark Program

Continued from page 11 Fig. 45.3

Summary of Lane Miles of County and City Roads in Need of Overlay, Repavement or Reconstruction: 2003 - 2005

Year	Number of Jurisdictions Reporting*	Avg. Score to Identify Segments for Repaving, or Reconstruction	Total Lane Miles	Lane Miles In Need of Repaving/ Rehab.	Percent of Total in Need of Repavement / Rehab	Lane Miles Currently Budgeted for Repave or Rehab.	Percent of Need Being Met (by Lane Miles)	Amount Budgeted	Percent of Need Met (by Cost)
2003-2004	12	< 60 on 100 pt. Scale	6,921	667	9.6%	477	72%	\$ 36,982,500	71%
2004-2005	15	< 60 on 100 pt. Scale	11,360	1,157	10.2%	375	32%	\$ 51,239,500	13%

* Based on reports from Unincorporated King County and other cities. Seattle was not included in 2004, making the totals much lower. Seattle has a large backlog of deferred maintenance which also makes the "percent of need being met" much lower than the newer, suburban cities. Although these are limited samples of King County jurisdictions, they represent most of the mid-sized cities, cover about 2/3 of the urban area of the County, and all of the rural area. The lane mile values are totals for the jurisdictions reporting, not for the whole county.

Key Trends

- Similar to last year, in 2005 about 10% of the total lane miles in the reporting jurisdictions are in need of some form of major repair. But less than one-third of those lane miles will receive the needed repairs in the current budget cycle.
- With the inclusion of Seattle in this year's data, it appears that only about 32% of lane miles in need of repaving or reconstruction in King County and its cities are scheduled to receive that repair with current funding. In 2004, with Seattle excluded, about 72% of the need was being met.
- As an older city, Seattle has accumulated about \$300,000,000 worth of deferred maintenance on its arterial streets alone. It also has the highest projected cost per lane mile, due to the density of traffic involved, overhead costs, and the age of its street system.
- Current budgets will cover only about 13% of the projected cost of completing all necessary repairs.
- Cities have considerable flexibility in how they trade off maintenance needs with major repair needs. However, when roads that are approaching a "poor" condition rating are not maintained or repaired because of budget constraints, the result is likely to be higher costs in the future. Major reconstruction is more expensive than repaving.
- Initiative 776 resulted in King County no longer being able to collect the local option Vehicle License Fees (\$15), and thus eliminating about \$80 million in revenue destined for the county's road improvement program. However, it is currently meeting 100% of its repair/repavement needs.



King County Photo Archives
Visual inspection helps determine roads in need of repair before their condition deteriorates.

Data Sources

Indicator 41: Average Commute Lengths

Data Source: Decennial Census 1980, 1990, 2000. American Community Survey (ACS), 2002, and 2003.

Indicator 42: Metro Transit Ridership

Data Source: Metro Transit General Manager's Quarterly Report, Metro Transit Division. Sound Transit and Community Transit ridership reports. The Washington State Employment Security Department.

Indicator 43: Percent of Residents Who Use Alternatives to Single-Occupancy Vehicles

Data Source: Decennial Census of Population: Table DP-3. Profile of Selected Economic Characteristics: 2000, 1990 and 1980. American Community Survey, 2003; Puget Sound Transportation Panel Survey, 1999 and 2002, conducted by the Puget Sound Regional Council for non-work trips. On the panel survey, in order to assure an adequate number of transit-users for statistical significance, there is a slight bias in favor of transit-users. This means that the mode split in the panel survey is not exactly comparable to the mode split reported by the Census.

Indicator 44: Ability of Goods and Services to Move Efficiently

Data Source: Washington State Department of Transportation, Transportation Data Office. Measures, Markers and Mileposts, Sept. 2004. WS DOT.

Indicator 45: Number Lane Miles of City, County and State Roads and bridges in Need of Repair and Preservation

Data Source: King County DOT. Roads Division; Public Works Departments of King County Cities; WS DOT.

The **King County Countywide Planning Policies Benchmark Program** is a program of the Metropolitan King County Growth Management Planning Council. Reports on the 45 Benchmark Indicators are published annually by the King County Office of Budget. A companion to these reports is the **King County Annual Growth Report**. All reports are available on the Internet at <http://www.metrokc.gov/budget/benchmark>. For information about the **Benchmark Program**, please contact Rose Curran, Program Manager (206) 205-0715, or e-mail: rose.curran@metrokc.gov. The Benchmark Program address is King County Office of Budget, 701 Fifth Ave, Suite 3200, Seattle, WA 98104.

King County Office of Management and Budget

Steve Call, Director; Elissa Benson, Mgr. Regional Growth Group; Chandler Felt, Growth Information Team Lead; Rose Curran, Benchmark Program Manager, Lead Analyst; Nanette M. Lowe, Growth Information Team, G.I.S. Analyst